

ATTACHMENT J-1  
PROJECT SPECIFIC REQUIREMENTS

Incidental deliverables (manuals, reports, plans, and other written documentation) to be provided under this contract are identified in this Section J-A. Nothing contained in this Section J-A shall relieve the Contractor from furnishing data called for by, or under the authority of, other provisions of this contract, which are not identified and described in this Section J-A. The cost of data to be furnished in response to Section J-A is included in the firm-fixed price of the awarded contract.

**J-A-1                      SUBMITTALS**

a. At the Pre-work Conference, the Contractor shall provide, for approval by the Contracting Officer, the following schedules of submittals:

(1) A schedule of all shop drawings and technical submittals required by the specifications and drawings. The schedule will indicate the specification or drawing reference requiring the submittal; the material, item or process for which the submittal is required; the "SD" number and identifying title of the submittal; the Contractor's anticipated submission date and the approval need date.

(2) A separate schedule of all other submittals required under the contract but not listed in the specifications or drawings. The schedule will indicate the contract requirement reference; the type or title of the submittal; the Contractor's anticipated submission date and the approval need date (if approval is required).

b. All submittals called for by the contract documents will be listed on one of the above schedules. If a submittal is called for but does not pertain to the contract work, the Contractor will include it in the applicable schedule and annotate it "N/A" with a brief explanation. Approval of the schedules by the Contracting Officer does not relieve the Contractor of supplying submittals required by the contract documents but which have been omitted from the schedules or marked "N/A".

c. Copies of both schedules will be re-submitted monthly annotated by the Contractor with actual submission and approval dates. When all items on a schedule have been finally approved, no further re-submittal of the schedule is required.

**J-A-2                      SHOP DRAWINGS**

Pursuant to FAR clause 52.236-21 entitled "Specifications and Drawings for Construction"; the Contractor shall submit Shop Drawings as detailed below.

For purposes of this clause, the term "Shop Drawings" shall be construed to include all "Submittal Descriptions" (Type SD-01, SD-02, SD-03, etc., as required by project technical specifications) that are necessary to fully describe contractor supplied materials and installation methods and demonstrate their compliance with the technical and performance

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requirements of the contract. Submittal Descriptions include drawings, design data, catalog cuts, descriptive literature, illustrations, schedules, performance and test data, and similar materials to be furnished by the contractor. The preparation and distribution requirements described herein apply to all such SD submittals except as noted in technical specifications or otherwise directed by the Contracting Officer.

(a) For Shop Drawing submittals relating to Fire Safety systems, transmit twelve (12) complete sets as follows: transmit four (4) sets to the Contracting Officer and transmit the remaining eight (8) sets to the Architect/Engineer (A/E) whose name and address shall be provided at the Pre-work Conference.

(b) For all other Shop Drawing submittals, transmit ten (10) sets as follows: transmit two (2) sets to the Contracting Officer and transmit the remaining eight (8) sets to the Architect/Engineer (A/E) whose name and address shall be provided at the Pre-work Conference.

(c) The shop drawing submittals shall be transmitted to the Contracting Officer and the A/E on the same day. Delivery to the A/E shall be by the equivalent of "next day" delivery service. The timestamp recorded by the Contracting Officer upon receipt from the Contractor shall be the record date.

(d) Four (4) sets shop drawings will be returned to the Contractor. These sets will be returned to the Contractor within **21 calendar days** of the record date with appropriate review and approval notations as described below.

On or before completion date of the contract, the Contractor shall submit to the Contracting Officer two complete sets of shop drawings, which incorporate all comments, annotations, conditions of approval and corrections. Both drawing sets are to be made from the same original

(e) The shop drawings shall be complete and detailed and shall contain all information required for checking without reference to material contained in other shop drawing transmittals. Partial submittals will not be accepted unless specifically approved by the Contracting Officer. Any partial submittals shall be so indicated and any outstanding submittal required to complete the package shall be identified.

(f) Shop drawings shall be submitted in a logical sequence that is duly coordinated with long lead-time procurements and with fabrication and construction schedules. Each set of shop drawings shall be accompanied by a completed KSC shop drawing submittal form listing the specification or drawing

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reference requiring the shop drawing; the material, item or process for which the shop drawing is required and the "SD" number and identifying title of the shop drawing. The Shop Drawing form will be supplied by the Government.

(g) Shop drawings for certain systems (e.g. fire detection/suppression) must be submitted as soon as 30 days following contractor's Notice to Proceed, and associated as built drawings, software, programs and test procedures must be submitted up to 30 days prior to acceptance testing. See Shop Drawing and submittal references in project technical specifications for affected submittals and their respective deadlines.

(h) "Drawings" as opposed to "Shop Drawings" shall mean actual drawings, diagrams, layouts and schematics. "Drawings" fall under the more general term "Shop Drawings" which include other required materials.

(1) Drawings shall be uniform in size, nominally 24 by 36 inches, with a maximum size of 28 by 40 inches. All drawings shall have dark lines on a white background.

(2) Drawings shall be numbered in logical sequence. The Contractor may use his own numbering system. Each drawing shall bear the number of the submittal (e.g. First Submittal, Second Submittal, etc.) in a uniform location adjacent to the title block. The NASA contract number shall appear in the margin, immediately below the title block, for each drawing.

(3) A blank space, no smaller than 4 by 5 inches shall be reserved on the right hand half of each sheet for the Government disposition stamp.

(i) Review and approval notation will be as follows:

(1) Shop drawings marked "approved" authorize the Contractor to proceed with work covered by such drawings.

(2) Shop drawings marked "approved as noted" authorize the Contractor to proceed with the work covered provided he takes no exception to the corrections. The notes shall be incorporated on the shop drawings prior to submission of the final shop drawings.

(3) Shop drawings marked "returned for correction" require the Contractor to make the necessary corrections and revisions on the drawings and re-submit them for approval in the same routine as before, prior to proceedings with any of the work depicted on the drawings.

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- (4) Shop drawings marked "not approved" or "disapproved" indicate noncompliance with the contract requirements and the shop drawings shall be re-submitted with appropriate changes. No item of work requiring a shop drawing shall be accomplished until the drawings are approved or approved as noted.
- (5) The Contractor shall make any corrections required by the Contracting Officer. If the Contractor considers any correction or notation indicated on the returned shop drawings to constitute a change to the contract drawings or specifications; notice as required under the clause entitled "Changes" shall be given to the Contracting Officer.
- (6) The Government's engineering review of Contractor's shop drawing submittal(s) is for general conformance with the design concept of the project and the information given in the contract documents. As such, approval of the shop drawings by the Contracting Officer shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is satisfactory. The Contractor is solely responsible for the dimensions and design of adequate connection details; confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating the work with that of other trades and performing the work in a safe and satisfactory manner, and certifying that proposed products meet all technical specifications and all contractual provisions, especially those relating to the 'Buy American Act'. Corrections or comments made as part of the Government review do not relieve the Contractor from compliance with the requirements of the contract documents. Likewise, any approval of a Shop Drawing Submittal containing an unidentified deviation from the technical requirements of the applicable contract drawings, maps and specifications, shall not relieve the contractor from compliance with the technical requirements.
- (j) If changes are necessary to approved shop drawings whether as a result of a contract change or for any other reasons, the Contractor shall make such revisions and resubmit the shop drawings in accordance with the procedures in paragraphs a. through c. above. No item of work requiring a shop drawings change shall be accomplished until the changed shop drawings are approved.
- (k) Progress payments will not be made on materials and equipment that have been delivered to the job site but not approved on shop drawings.

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**J-A-3                      RECORD DRAWINGS**

- (a) After completion of all construction and before final payment is made, the Contractor shall submit one complete set of full size blue line contract drawings with fully dimensioned changes shown in red pencil to the Contracting Officer.
- (b) The Contractor shall verify all dimensions and Geographical Information System (GIS) data shown on the contract drawings. Civil discipline systems, such as site dimensions and elevations, underground utilities, manholes, access points, paving, etc. and systems requiring state certifications, such as stormwater systems, shall require verification by a registered Land Surveyor. As-built dimensions and GIS data shall be at the same level of detail as the contract drawings.
- (c) All dimensional changes shall be reflected as corrected dimensions by striking through the dimension value with a single line and circling this change. A leader shall point from the actual, as-built dimension to the circled change. All utility routing and interface changes shall be reflected on the drawings to scale and defined with sufficient dimensions to be able to locate. Indicating by reference alone, for example to a change order number, will not be acceptable.
- (d) These record drawings shall be maintained by the Contractor at the work site and shall be updated based on job progress to reflect all changes and deviations and actual routing of all field-routed utilities and services. All lines, letters, and details shall be sharp, clear, and fully legible. All additions to the drawings shall be precisely drawn to scale of the original drawing and their locations shall be dimensioned.
- (e) **Final Systems Drawings For Wiring/Devices/Control Systems:**
  - (1) Final system drawings for wiring and control systems shall be prepared and submitted as described below, and in accordance with additional requirements as described in technical specifications.
  - (2) Record drawings shall be made available for Government review on a monthly basis at the job site. This monthly review of record drawings will be part of the monthly monetary progress review.

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(3) Drawings for installation of wiring, devices and/or controls that require field routing must be red-lined, reproduced, verified for accuracy, and submitted for approval per the requirements set forth under the section entitled Shop Drawings herein a minimum of two weeks before requesting a final walk down of the following systems. These drawings shall be labeled "FINAL SHOP DRAWINGS". In addition to hardcopy reproductions, the final drawings submittals shall include electronic files in Intergraph or Microstation format or in a Computer Aided Design (CAD) format compatible with Intergraph or Microstation.

(4) Final Systems Drawings are required for:

- (i) HVAC
- (ii) Paging/Area Warning
- (iii) Premise Wiring
- (iv) Electrical control schematics and connection diagrams
- (v) Elevators
- (vi) Fire detection/suppression systems
- (vii) Any other system involving wiring and controls, with the exception of facility lighting

**(f) Sewer System Certification:**

For all work involving sewer system installations or modifications, the Contractor shall provide to the Contracting Officer three (3) sets of drawings in the form of an As-Built Survey signed and sealed by a State of Florida Registered Land Surveyor for the sewer system. The as-built survey shall show all locations and invert elevations of the sewer system to verify that its placement is per contract drawings. The submittal shall be complete and sufficient for the Engineer's of Record certification to the Florida Department of Environmental Protection. The as-built survey level of detail shall be the same as shown in the contract drawings. If significant differences exist between the contract requirements and as-built conditions as evidenced by the survey, the differences shall be corrected and a new as-built survey made and submitted as before. Drawings shall be provided prior to the final inspection.

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- (g) Record drawings shall be made available for Government review on a monthly basis at the job site. This monthly review of record drawings will be part of the monthly monetary progress review.

**J-A-4 MATERIAL SAFETY DATA SHEETS (MSDS) SUBMITTAL/CHEMICAL INVENTORY REPORTING AND MANAGEMENT**

The Contractor shall provide a complete and accurate list, accompanied by the applicable Material Safety Data Sheets (MSDS), of all materials and chemicals listed on the Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 112(r) of the Clean Air Act that will be stored onsite and/or used in the execution of this contract, regardless of the quantity. This information shall be provided to the Contracting Officer (CO) prior to the time of delivery of the materials and chemicals to the site. This inventory is to be updated and resubmitted to the CO on a monthly basis. All inventory reporting is to be completed on the Chemical Inventory for Construction Projects at Kennedy Space Center Form (8-313NS). Appropriate labels and MSDS shall be provided for all chemical shipments.

**J-A-5 PROGRESS SCHEDULES**

Pursuant to FAR 52.236-15, entitled "Schedules for Construction Contracts," the Contractor shall:

- (a) Prepare the Progress Schedule using standard commercially available scheduling software or comparable format such as a bar chart approved by the Contracting Officer.
- (b) Submit the Progress Schedule, for approval by the Contracting Officer, at the Pre-Work Conference in four (4) copies. Include a copy of the electronic file if Progress Schedule is prepared using scheduling software. The approved initial progress schedule will be the baseline schedule for the project.
- (c) Include no less than the following information on the Progress Schedule:
  - (1) Major headings for primary project scope broken out in accordance with the Divisions and/or Sections of the project specifications.

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- (2) Line item break-downs under each major heading sufficient to track the progress of the work.
  - (3) A line item showing contract finalization tasks which includes Punch List, Clean-up and Demobilization, and Final Construction Drawings.
  - (4) Appropriate level of detail under each line item or activity (compatible with the schedule of values) sufficient to track the cost and schedule performance, including scheduled vs. actual percentage complete for any given day within the contract performance period. (Progress schedules prepared using scheduling software shall include resource loaded activities [labor, material, and other resources), major deliveries, project milestones, etc.]. Bar Charts shall include, as a minimum, a materials bar and a separate labor bar for each line item.) Each element shall include the estimated cost and percentage weight of total contract cost. The labor element shall also show the number of workers expected to be working on any given date within the Contract Performance Period.
  - (5) Separate line items for Mobilization and Shop Drawing submittal and approval (these items are to show no associated costs).
  - (6) The progress schedule or bar chart shall indicate the file date and status date (data date).
- (d) Update the progress schedule every **30 days** (unless specified otherwise)\* throughout the Contract Performance Period and submit four copies (and electronic file as applicable) to the Contracting Officer for approval. Progress schedule updates shall be submitted concurrently with progress payment requests

**J-A-6                      STATUS REPORTS ON MATERIAL ORDERS**

- (a) Within **15** days after Notice to Proceed, the Contractor shall submit, for approval by the Contracting Officer, an initial Status Report on Materials Orders. This report will be updated and resubmitted every **30** days as the status on materials orders changes.
- (b) The report shall list, in chronological order by need date, all materials orders necessary for completion of the Contract, including those orders placed by



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subcontractors as well as the Contractor. The following information will be required for each material order listed:

- (1) Material name, supplier, and invoice number.
- (2) Bar Chart line item or CPM activity number affected by the order.
- (3) Delivery date needed to allow all directly and indirectly related work to be completed within the Contract Performance Period.
- (4) Current delivery date agreed on by supplier.
- (5) When Item (b)(4) exceeds Item (b)(3), the effect that delayed delivery date will have on contract completion date.
- (6) When Item (b)(4) exceeds Item (b)(3), a summary of efforts made by the Contractor to expedite the delayed delivery date to bring it in line with the needed delivery date, including efforts made to place the order (or subcontract) with other suppliers.

**J-A-7        SCHEDULING**

The Contractor will be required to provide detailed scheduling information regarding planned operations to the Contracting Officer's designated representative for input to the **LC39 and Industrial Area** 72 hour/11-day operations schedule (a total of 14 days). This schedule input must be provided on a daily basis prior to 1:00 P.M. The schedule must show the Contractor's planned operations in detail for the next 3 days in hourly increments and in shift increments for the following 11 days.

All Contractor operations requiring support from KSC, such as outages or fire and safety standby, for hazardous operations, shall be identified.

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**PROJECT SPECIFIC KENNEDY SPACE CENTER REQUIREMENTS**

The project specific Kennedy Space Center requirements supporting Contract Section I are identified in this Section J-C. Nothing contained in this Section J-C shall relieve the Contractor from complying with other requirements of this contract, which are not identified and described in this Section J-C (there is no section J-B).

**J-C-1            UTILITY OUTAGE, ENERGIZED ELECTRICAL WORK, AND  
EXCAVATION PERMITS**

(a) Utility Outage Requests and Electrical Work Permits

- (1) Utility Outage Requests: All outages required during the prosecution of work which affect utility systems, such as electrical, water, fire detection and protection systems and air handling systems will require permits. Work shall be scheduled to hold outages to a minimum. Request for utility outage permits shall be made in writing to the Contracting Officer at least fourteen (14) working days in advance of the time required. The request shall state the system involved, area involved, approximate time of outage, and the nature of the work involved. The fact that the Contractor requests an outage for a specific time period does not necessarily mean that the outage will take place. Due to the nature of the operations at Kennedy Space Center, the Contractor probably will not know until the day before the requested date if the outage will take place as scheduled. All outages will take place outside regular working hours. The Contractor will not be entitled to additional payment for working irregular hours due to outages.
- (2) Electrical Work Permits: Prior to beginning work on an electrical system under an approved outage, the Contractor shall obtain an executed Work Permit (form number KSC-26-4000NS) from the Base Support contractor, and then execute complex lockout/tag-out procedures for all Work Permit related work as follows:
  - a. The Contractor's employee in charge of the required lockout/tag-out shall be present at the time the Government switches high-, medium-, or low-voltage circuits under Government access control which are to be locked and tagged out by the Contractor. The Contractor shall coordinate with the COTR for the required switching period time and date. Due to KSC operational considerations the switching period time and date may be at any time, and outside of normal working hours or work days.

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- b. Once Government switching is complete the Contractor's employee in charge of the lockout/tag-out shall sign the Work Permit and immediately install the required OSHA compliant lockout / tag-out on the required switching device(s). Once installed the Contractor's employee in charge of the lockout/tag-out shall individually note the locations of the locks and tags on the Work Permit form.
- c. A lockout/tag-out lock box shall be used for all such lockout / tag-outs. The key(s) from the lock(s) installed by the Contractor's employee in charge of the lockout/tag-out shall be placed in the box and the employee in charge shall place an additional personal lock on the lock box to secure the keys inside. Lock box shall be kept at the work site and all other Contractor employees shall attach their personal lockout/tag-out on this box at any time they are working on the applicable equipment.
- d. At the start of the first standard work period following the lockout/tag-out of a Government switched circuit for which a Work Permit is issued, the Contractor's employee in charge of the lockout/tag-out shall complete the required lockout/tag-out (lock box) procedures. Immediately upon completing the lockout/tag-out the Contractor shall verify no voltage is present on all circuit conductors using suitable testing equipment, safe work practices, and all required personal protective equipment. All other circuit safeguards such as grounding shall occur immediately after the voltage test and each safeguard shall be individually recorded on the Work Permit.

(b) Energized Electrical Work

- (1) Live parts to which an employee might be exposed shall be put into an electrically safe work condition before an employee works on or near them, unless the employer can demonstrate that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. If live parts are not placed in an electrically safe work condition (i.e., due to increased or additional hazards or infeasibility), work to be performed shall be considered energized electrical work. Safety plans, job hazard analysis, and work practices for work on or in proximity to energized parts shall be in accordance with KNPR 8715.7, KSC Construction Contractor Safety and Health Practices Procedural Requirements

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- (2) Arc-flash and shock prevention personal protective equipment (PPE) is required for all energized electrical work and where energized or exposed live parts may not be present, but a potential hazard exists including: manhole or cable vault/tray insulated cable inspections, circuit breaker or switch operation, and de-energized voltage checks to electrically safe equipment.

The Contractor shall provide a qualified electrical safety professional to perform an arc-flash and shock hazard analysis in accordance with NFPA 70E for all such electrical work. The analysis shall be submitted with the Contractor's Site Specific Safety Plan (SSSP) and referenced in any applicable Job Hazard Analysis (JHA). The safety professional shall perform and review a power system analysis using computer software specifically designed for the purpose to determine short circuit levels and arc flash hazard incident energy at all locations to be worked on by the Contractor. Table 130.7(C)(9) in NFPA 70E may be used in lieu of calculations when all applicable general notes for the table apply. The Government will provide source short circuit levels and clearing times for Government operated electrical source equipment as well as any applicable design information. The analysis shall include a table summarizing the results of the analysis with the following information for each location or piece of equipment:

- |      |   |
|------|---|
| I    | Protective Device Name                          |
| II   | Protective Device Clearing Time                 |
| III  | Maximum Voltage                                 |
| IV   | Calculated Bolted Three Phase Fault Level.      |
| V    | Calculated Bolted Ground Fault Level            |
| VI   | Calculated Minimum Arcing Fault Level           |
| VII  | Arc-Distance if applicable for the calculation. |
| VIII | Employee Working Distance                       |
| IX   | Calculated Arc-Flash Boundary                   |
| X    | Calculated Maximum Arc-Flash Incident Energy.   |
| XI   | Arc-Flash PPE Category                          |
| XII  | Shock Prevention PPE Insulating Class           |
| XIII | Limited Approach Boundary                       |
| XIV  | Restricted Approach Boundary                    |

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xv      Prohibited Approach Boundary

- (3) Electrical Manhole / Vault Confined Space Requirements: Reference KNPR 8715.7, KSC Construction Contractor Safety and Health Practices Procedural Requirements. During the site specific safety plan submittal phase, the Contractor shall complete a hazard evaluation of confined space(s) ensuring all hazards associated with the space or that may be introduced to the space have been identified and mitigated. The Contractor's designated safety professional shall coordinate with the COTR to complete a confined space hazard assessment (KSC Form 28-750NS) in accordance with KNPR 1840.19 for each confined space, and to schedule a job-site inspection meeting with KSC Environmental Health and Safety personnel. Within 35 calendar days after this meeting the COTR will provide a confined space hazard assessment to the Contractor. This assessment must be complete prior to any manhole entry and will be used in generating the confined space entry permit(s) required for the project.

a. The contractor shall provide supplementary lighting for all manhole work.

(c) Excavation Permits

The Contractor shall request and obtain excavation permit(s) prior to performing any excavation. KSC Form 26-312V3 NS, Utility Locate/Excavation Permit Request, shall be prepared by the Contractor and submitted to the Government for approval at least 15 working days prior to the planned excavation date. The Contractor shall comply with the requirements of the Base Support Contractor's "Utility Locate / Excavation Permit Instruction" ENG-I-MP07 (latest revision), in the preparation, submission and use of the permit(s).

**J-C-2      FIRE PROTECTION AND REQUIRED PERMITS**

The KSC Fire Department will provide fire suppression, inspection and rescue services to the Contractor as necessary. The Contractor shall:

- (a) Provide approved fire extinguishers of appropriate type for hazards involved.
- (b) Report all fires to the Fire Service at 867-7911 or 867-1911.

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- (c) Comply with all requirements of KHB 1710.2C Section 504 (Heat Producing Devices) and NSS 1740.11 "NASA Safety Standard for Fire Protection" Section 702 and Chapter 8 for work performed at the Kennedy Space Center.
- (d) Provide a fire watch in accordance with Federal OSHA Safety and Health Standards 29 CFR 1926.352/1910.252 when required by the welding and burning permitting official.
- (e) Prevent false fire alarms by providing 24-hour advance notice to the Contracting Officer's Technical Representative (COTR) when construction activities in areas protected by fire alarm and/or detection systems may produce airborne particulates (smoke or dust) caused by construction activities such as painting, stripping, cutting drywall or concrete, sandblasting, and/or removing raised floor panels.
- (f) Request permits for all welding and burning operations. Requests for these permits shall be made in writing to the Government at least seven (7) working days in advance of the time required.

**J-C-3            PERMANENTLY INSTALLED SAFETY SYSTEMS**

- (a) The Contractor shall protect and in no way interrupt the service of any installed safety systems or personnel safety devices.
- (b) In the event that the Contractor requires entrance into systems serving safety devices, the Contractor shall obtain prior approval from the Contracting Officer. In the event the Contractor determines that it is necessary to temporarily remove or render inoperable any personnel safety devices in order to accomplish contract requirements, the Contractor shall provide alternate means of protection prior to removing or rendering inoperable any permanently installed safety devices or equipment and shall obtain prior approval of the Contracting Officer.

**J-C-4            BREATHING AIR COMPATIBILITY**

- (a) The contractor shall take precautions to assure that connectors used in contractor-supplied breathing air systems are incompatible with connectors present on either KSC gas systems or on contractor supplied systems that are used to supply non-respirable gases. KSC-STD-Z0008, 'Standard for Design of Ground Life Support Systems and Equipment', establishes requirements for connectors to be used in KSC facility breathing air and non-respirable gas systems. Facility breathing air systems located at KSC/CCAFS are to use a Hansen 3/8 inch quick disconnect as a breathing air distribution interface. KSC facility non-respirable gas systems are to use 1/4 inch quick disconnects for gas distribution interfaces.

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Although most facility systems were designed in accordance with this standard, there are nonconforming locations at KSC/CCAFS.

(b) The Contractor may use KSC facility breathing air systems, if available at the work location. The contractor shall perform a pre-work site inspection to identify coupling types in use at the work location before mobilizing or using any breathing air equipment. The contractor shall also submit a written certification to show the contractor's breathing air system has been recently inspected and meets Grade D breathing air standards. Alternately, the contractor may arrange for on-site testing of contractor-supplied breathing air by the Government at least five days prior to start of work. In addition, the contractor shall also provide a work site evaluation for the NASA Safety Office to review before using any breathing air system. The breathing air test and the safety inspection can be coordinated through the Contracting Officer, and will be at no cost to the contractor.

(c) The contractor shall tag or label connector ends of all lines and flexible hoses of contractor-provided breathing air or non-respirable gas distribution systems. The tags or labels will clearly identify the contents of the lines or hoses.

**J-C-5            TRAFFIC RESTRICTIONS**

(a) The Contractor shall not move oversized loads and/or slow moving vehicles on established roads within the Kennedy Space Center from 6:30 A.M. to 8:30 A.M. and 3:30 P.M. to 5:30 P.M. on week days. Other than the above restricted hours, the Contractor may move oversize and/or slow moving vehicles to the work site provided all requirements of the Florida State Highway Department have been met.

(b) Movement of any Contractor vehicle in excess of maximum width, height and length specified by Florida Statutes Chapter 316 shall be accompanied by the Contractor's designated Convoy Commander. The Contractor's Convoy Commander shall be totally responsible for the oversized vehicular movement to include making a physical inspection for possible obstructions along the intended route and obtaining all required special permits.

**J-C-6            HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES**

If known historical or archaeological resources exist within the Contractor's work area, and have been designated on the contract drawings, the Contractor shall install protection for these resources as shown on the drawings and shall be responsible for their preservation during the contract and shall have a Florida State-certified archaeologist on-site during all excavations.



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If during excavation or other construction activities, any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, all activities that may damage or alter such resources shall be temporarily suspended. Resources covered by this paragraph include but are not limited to any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor must immediately notify the Contracting Officer (CO) or the CO's designee and NASA Environmental Assurance Branch (EAB), TA-B1B.

**J-C-7            MAINTENANCE OF GOVERNMENT EQUIPMENT**

(a) Government systems and equipment in the Contractor's work area may require servicing, maintenance, or modification by Government support contractors during the contract performance period. This maintenance activity may include work on systems, including underground utilities, that connect with Contractor installed systems and equipment. The Contractor shall allow the Government support contractors into his work area to perform the maintenance work.

(b) Existing systems and equipment require periodic maintenance that cannot be readily defined in terms of frequency and duration. This maintenance will be coordinated with the Contractor through the Contracting Officer, and will be performed on a non-interference basis as much as possible. The Contractor shall notify the Contracting Officer regarding any uncoordinated maintenance activity.

(c) The Contractor shall arrange and conduct a joint pre-operations briefing with Government support contractor personnel on each occasion that the support contractor requires access to the contractor's work area. The Contractor shall take the following steps as required to prevent collateral damage to, or interference with, Contractor installed systems and equipment.

(1) Verify the scope and limits of the support contractor's planned maintenance activity.

(2) Advise the support contractor regarding the scope of the Contractor's work that may be affected by the maintenance activity, including specific locations and dimensions of planned or installed facilities, systems and equipment. Notify the Contracting Officer immediately regarding any resulting conflicts or interferences.

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- (3) Ensure that temporary barriers or protective measures are provided as needed to protect Contractor installed work and preserve job-site safety.

The Contractor shall notify the Contracting Officer immediately regarding any issues that cannot be resolved with the support contractor.

**J-C-8            AVIATION OBSTRUCTION LIGHTS**

The Contractor will provide at least two Aviation Red Obstruction Lights or two High Intensity White Obstruction Lights on all structures over 100 feet above ground level. All construction cranes/booms shall be lighted regardless of height. Lights must be constructed and installed in accordance with U.S. Department of Transportation, Federal Aviation Administration publication AC 70/7460-1F (as revised), Chapter 4, paragraph 15, subparagraph e. Lights will be operated during all periods of reduced visibility, between sunset and sunrise, and as directed by the Contracting Officer.

**J-C-9            INTERFERENCES AND COORDINATION OF WORK**

(a) The Contractor shall coordinate construction layout, systems configuration and work scheduling to avoid interference's between the various construction trades and their installations. Interferences and obstructions resulting from lack of Contractor coordination shall be corrected by the Contractor as approved by the Contracting Officer. All components, fittings and reworking necessary for such corrections shall be provided by the Contractor at no additional cost to the government. Dimensions shown for existing work, and all dimensions required for work that is to connect to existing work, shall be verified by the Contractor by actual field measurement of the existing work. Any work at variance with that specified or shown in the drawings shall not be performed by the Contractor until approved in writing by the Contracting Officer.

(b) To the extent possible, the as-built dimensions of all new work shall be verified by actual field measurement prior to ordering or fabricating mechanical, electrical, or specialty equipment and materials to be installed. If such field measurement is not possible, then the contract drawings and applicable shop drawings shall be checked by the contractor for dimensional accuracy prior to ordering or fabricating equipment and materials to ensure proper fit for field installation.

(c) The Contractor shall be responsible for correction of all field fitup problems and interferences which could have been avoided by field measurement or drawing checks prior to equipment fabrication.

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**J-C-10        RESTORATION OF GRASSED AREAS DISTURBED BY  
CONSTRUCTION**

The Contractor shall, prior to completion of the contract, grass all areas disturbed by construction activities by seeding and mulching or, when erosion may occur, by sodding, except where specifically directed otherwise in the drawings and specifications.

**J-C-11        TEMPORARY CONSTRUCTION TRAILERS**

(a) The Government will provide a location for temporary office and/or storage facilities if needed for performance of on-site work under this contract. Specific location(s) at or reasonably close to the work site will be identified at the pre-work conference. The contractor is responsible for providing his own telephone service and for making his own connections to KSC utility services, if provided for under 52.236-107.

(b) All temporary facilities must be structurally sound, in roadworthy condition, and shall be installed and anchored in accordance with KSC-PLN-1904, Trailer/Equipment Tie Down Plan for the John F. Kennedy Space Center; or Rules of Department of Highway Safety and Motor Vehicles, Division of Motor Vehicles Chapter 15C-1, whichever is more stringent. Copies of the standards will be made available to the contractor at the pre-work conference. The contractor shall provide written certification of compliance for all temporary facilities to the Contracting Officer within three days of installation. Any facilities that fail to meet these requirements shall be immediately removed from Government property.

(c) All temporary facilities shall be removed from government property within two weeks following final acceptance of work performed under this contract.

**J-C-12        CONFINED SPACE WORK REQUIREMENTS**

(a) Special requirements, coordination, and precautions will apply to any contract work taking place in confined spaces. Each contractor contracted to perform work in confined spaces is required to provide a written program for such work as part of its health and safety plan which is consistent with the requirements of 29 CFR 1910.146. For work in telecommunications manholes, provisions of 29 CFR 1910.268(o) are also applicable. The contractor shall coordinate any such work in confined spaces with the KSC Environmental Health Support Contractor, KSC Fire Services Support Contractor, and any other resident government or contractor organization whose employees may have access to the work location. The provision of Environmental Health services by the government does not

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prohibit the contractor from providing their own atmospheric testing. Government provided services include environmental health monitoring and consultation support for testing of atmospheres in confined spaces as well as fire rescue and emergency medical services.

(b) Entry into and work in confined spaces shall be in accordance with the requirements of KNPR 1820.4, "KSC Respiratory Protection Program," KNPR 1840.19, "KSC Industrial Hygiene Handbook," and all other applicable clauses of this contract.

(c) Confined spaces, which contain water, shall be pumped out by the contractor prior to scheduling a confined space entry check.

(d) In addition to the requirements set forth above, the Contractor shall notify and obtain approval from the Power Coordinator, telephone 321-867-7300, and/or from Communications Control, telephone 321-867-4141, respectively, prior to performing work in electrical and/or communications manholes.

**J-C-13                      TESTING OF CONSTRUCTION MATERIALS**

Tests of construction materials indicated to be performed by the Contractor shall be accomplished by the Contractor utilizing the services of an acceptable independent testing laboratory.

**J-C-14                      AFFIRMATIVE PROCUREMENT**

Affirmative Procurement (AP) is the purchase of environmentally friendly products and services (i.e. products made from recycled or recovered materials). Federal agencies, their Contractors and subcontractors are required to maximize the purchase materials on the list of "EPA Designated Guideline Items" with the minimum recycled or recovered materials content whenever practicable according to RCRA 6002 and EO 13101. The requirements of RCRA 6002 include the following: "The decision not to procure such items shall be based on a determination that such procurement items:

- (A) are not reasonably available within a reasonable period of time
- (B) fail to meet the performance standards set forth in the applicable specifications or fail to meet the reasonable performance standards of the procuring agencies and/or
- (C) are only available at an unreasonable price.

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Any determination under subparagraph (B) shall be made on the basis of the guidelines of the National Institute of Standards and Technology in any case in which such material is covered by such guidelines.”

The Contractor shall provide AP approved items as specified within the contract documents. Submittals for AP items shall be provided for approval in accordance with Shop Drawing provisions. If the Contractor proposes to substitute an item that does not conform with AP requirements, the applicable Shop Drawing shall be accompanied by KSC Form 8-69, Contractor Request to Use Nonconforming Parts or Material (Deviation/Waiver Request) identifying the reason for the proposed substitution.

Non-conforming items without approved D/W's will be rejected and the contractor shall be responsible for any costs and schedule impacts associated with replacing such non-conforming items at no additional cost to the Government.

At the conclusion of the project, the Contractor shall provide the Contracting Officer (CO) with a report itemizing all AP items used.

Detailed information on the EPA AP specified/approved products and manufacturers providing these products is available at [www.epa.gov/cpg/products.htm](http://www.epa.gov/cpg/products.htm).

**J-C-15                      CONCRETE WASHOUT/NATIONAL POLLUTANT DISCHARGE  
ELIMINATION SYSTEM (NPDES)**

**1.        CONCRETE WASHOUT/NPDES**

The Contractor shall not allow wastewater from standard concrete construction activities (such as on-site material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, forms, directional drilling, etc.) to enter waterways or to be discharged before being treated to remove pollutants.

The Contractor shall dispose of the construction-related wastewater by collecting and placing it in a settling pond where suspended material can be settled out and/or the water can evaporate to separate pollutants from the water. The site for the settling pond shall be coordinated with and approved by the Contracting Officer (CO). The Contractor shall remove and dispose of the residue left in the pond before completion of the project in accordance with the solid waste removal specifications and any National Pollutant Discharge Elimination System (NPDES) permits issued for the project. The Contractor shall backfill the area to the original grade and top-soil and sod the area.

**2.        LIGHTWEIGHT CONCRETE**

Reference contract article entitled “Hazardous Wastes”:

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The use of light-weight concrete materials has been confirmed to have the potential to be hazardous due to pH but may also exhibit other hazardous characteristics depending upon processes and products used. The contractor shall not allow wastewater from light-weight concrete construction activities (such as on-site material processing; concrete curing; concrete clean-up; and water used in concrete trucks, forms, etc.) to enter waterways or to be discharged on the ground before being analyzed for hazardous waste characteristics.

A representative sample shall be collected from the first "flush" of light-weight concrete wash water waste at the time of generation, and will be analyzed by the government for hazardous waste characteristics. Pending completion of this analysis, all such waste water shall be containerized, labeled, and handled as "Hazardous Waste Determination in Progress"

If the waste wash water from light-weight concrete usage is determined to be hazardous, it shall be handled, stored, labeled, and managed as hazardous waste in accordance with RCRA regulatory requirements and applicable contract provisions.

If the analysis shows the wash water is not hazardous, this wash water waste and any additional wash water waste generated at the same job using the same product and process may be handled as described under paragraph 1 above.

**J-C-16      DEWATERING/CONSUMPTIVE USE PERMIT (CUP)**

Dewatering operations (including manhole dewatering) shall be conducted in accordance with the most current St. Johns River Water Management District (SJRWMD) "Notice General Construction Dewatering Permit, Chapter 40C-22, F.A.C." If the dewatering operation will exceed 300,000 gallons per day (GPD) or thirty (30) days duration, the Contractor shall submit the Notice to District of Dewatering Activity RDS-50 Form fourteen (14) days prior to dewatering activities. The Contractor shall submit the required information to the Contracting Officer (CO) or his designee and provide a copy to the NASA Environmental Assurance Branch (EAB), TA-B1B. NASA EAB, TA-B1B will notify SJRWMD of the Contractor's intended dewatering operation. No dewatering may take place until authorized by the CO.

**J-C-17      LANDFILL OPERATIONS/SOLID WASTE REMOVAL**

- A. The Contractor shall police work areas daily for loose trash and debris. The Contractor shall daily collect and properly dispose of wind-blown debris to prevent migration of debris/trash offsite.
  
- B. Trash items not requiring special handling, or which cannot be resold or recycled, shall be disposed of in receptacles slated for disposal in either the KSC Landfill or the Brevard County Landfill. The physical dimensions of the

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waste shall be within the handling capabilities of the landfill disposal equipment. The physical dimensions for the landfill handling capabilities are 8 feet in length x 8 feet in width. The KSC Landfill is an unlined Class III landfill with permit restrictions and limited capacity. Only the following items listed will be accepted at the landfill:

- (1) Asphalt: Asphalt removed from parking lots, driveways, and roadways.
- (2) Blast Media: The blast media must be as free from debris as possible and determined nonhazardous for acceptance into the KSC Landfill. The Spent Sandblast Media Disposal Certification Form (KSC Form 28-1117) must accompany the blast media to the landfill and will be reviewed by the landfill operator. Blasting media determined to be a hazardous waste must be managed as hazardous waste.
- (3) Carpeting
- (4) Construction and Demolition Debris: Materials considered non-water soluble and non-hazardous in nature, including but not limited to steel, brick, glass, concrete, asphalt, pipe, gypsum wallboard and non-pressure treated or unpainted lumber. This includes rocks, soils, tree remains and other vegetative matter, which normally result from land clearing or development. Scrap metal from demolition projects should be managed according to guidance provided under article entitled "Recycling and Salvaging Materials".
- (5) Fiberglass
- (6) Glass (except light bulbs or lamps).
- (7) Non-Friable Asbestos: Non-friable asbestos, also referred to as Non-Regulated Asbestos Containing Materials (NRACM) is handled on a

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case-by-case basis. KSC policy allows for the disposal of NRACM only. In order to dispose of non-friable asbestos, the Contractor shall complete and submit the KSC/Schwartz Road Landfill Non-Friable Asbestos form (KSC 28-1084 NS), which can be obtained from the Contracting Officer (CO) or the CO's designee. The form shall be sent to NASA EAB, TA-B1B. The scheduling procedures listed below shall be followed before NRACM wastes are accepted at the landfill:

- a. The waste generator/hauler shall make arrangements with the landfill operator a minimum of 24 hours before disposal of NRACM waste and shall inform the operator of the quantity of the waste and the scheduled date the shipment will arrive at the landfill.
- b. NRACM will be accepted at the landfill with prior arrangement with the scale house attendant (minimum of 24 hours notification) Monday through Friday during regular landfill hours, but will not be accepted later than 1400 hours.

(8) Pallets (Unserviceable Wood and Plastics): Pallets that are not reusable or recyclable are accepted.

(9) PCB Bulk Product Waste: Refer to Environmental Procurement Clause "PCB Management."

(10) Wood: Miscellaneous non-pressure treated wood items are accepted.

(11) Yard Waste (Vegetation): Vegetation from maintenance and land clearing activities is accepted.

C. The following wastes are not authorized for disposal at the KSC landfill:

(1) Any waste not permitted by DEP regulations to be disposed of in a Class III landfill as defined in Rule 62-701.200(14), FAC.

(2) Putrescible (brown bag) office waste.



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- (3) Chromated Copper Arsenate (CCA) treated wood.
- (4) Liquid or non-liquid polychlorinated biphenyls (PCBs) (with the exception of PCB Bulk Product Waste).
- (5) Friable Asbestos.
- (6) Hazardous wastes as specified by the U.S. Environmental Protection Agency (EPA); EPA defines *hazardous waste* as those wastes that exhibit flammability, corrosivity, reactivity, and/or toxicity characteristics; (Per EPA's list of hazardous wastes, 40 CFR Part 261, Subpart D, and most recent revision thereof).
- (7) Biomedical waste.
- (8) Liquid wastes, including oil (containerized or non-containerized).
- (9) Lead-acid batteries.
- (10) Tires, other than "shredded waste tires."
- (11) White goods (ex. appliances).

Clean, unstained, unpainted concrete is accepted at the Diverted Aggregate Reclamation and Collection Yard (DARCY) without any sampling and analysis. When feasible, painted concrete should be segregated from unpainted concrete for placement in the DARCY. No oil-stained concrete will be accepted at the DARCY. Due to the potential for PCB contamination, **all removed concrete** associated with oil-containing electrical equipment must be disposed through the KSC Waste Management Office as regulated PCB waste.

**J-C-18                      PCB MANAGEMENT**

- A. The Government will sample removed paper-insulated-lead-covered (PILC) cable for PCB content after its removal. The Contractor shall seal the ends of

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all cable immediately upon its removal. The Contractor shall not remove cable from KSC until sample results have been received and the cable waste deemed non-hazardous by the Contracting Officers representative.

- B. The Government will sample transformer insulating oil for PCB's prior to disconnecting and removal by the Contractor. Both the transformer core and insulating oil will be hazardous waste if the PCB content is in excess of allowable limits.
- C. Polychlorinated Biphenyls (PCB) wastes may include, but are not limited to, oil-filled transformer, light ballasts, capacitors, electric motors, pumps and paint coatings. PCB wastes shall be managed in accordance with 40 CFR 761. PCB waste management and disposal must be coordinated through the Contracting Officer (CO).
- D. Non-leaking ballasts and small capacitors (less than 1 centimeter in diameter) are managed as controlled wastes, but are not subject to the special handling requirements outlined below. The following waste generator standards will be used for the accumulation and storage of PCB waste materials:
  - a. PCB wastes listed below may be stored temporarily at a waste generator accumulation site for up to thirty (30) days from the date removed from service. The container and labeling shall comply with the TRP. The date the PCB item was removed from service shall be marked on the container label per the TRP.
    - (1) Non-leaking articles and equipment. PCB articles are manufactured articles containing PCBs whose surfaces have been in direct contact with PCBs. These articles include capacitors, transformers, electric motors, and pumps.
    - (2) Leaking articles and equipment placed in non-leaking PCB containers with sufficient materials to absorb any liquid PCBs remaining in the item. PCB containers are any devices used to contain PCBs or PCB articles whose surfaces have been in direct contact with PCBs.

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- (3) PCB containers storing non-liquid PCB wastes such as contaminated soil and debris.
- b. PCB containers storing liquid PCBs at concentrations of 50 parts per million (ppm) or greater shall be removed from the generator accumulation site to the PCB Storage Building (K7-115) within 24 hours from the date the PCB item was removed from service. This support shall be coordinated through designated KSC Waste Management personnel for waste pickup before removal from service date to allow for waste pickup scheduling and to avoid regulatory violations. The EPOC shall contact KSC Waste Management for pick-up and removal of hazardous/PCB waste. Documentation including the waste type, quantity, locations, and organization responsible for the waste shall be provided on KSC Form 28-809 "Waste Support Request" to KSC Waste Management when requesting waste disposal.
- E. Oil-containing equipment with PCB concentrations in both the oil and paint < 50 parts per million can be excessed through the KSC Reutilization, Recycling, and Marketing Facility (RRMF) or given to the contractor. The oil must be removed from the equipment, containerized/labeled according to the Process Waste Questionnaire (PWQ) / Technical Response Package (TRP) instructions, and disposed through the KSC Waste Management Office. [KNPR 4000.1](#), [NPR 4200.1](#), and [NPR 4200.2](#) provide guidance on turning in excess equipment to the RRMF. Sample results are required to be provided to the RRMF within the six (6) month period prior to delivery to RRMF, transformers shall have an oil analysis showing PCB content. At the request of the Contractor, the CO will arrange for all sampling and testing through the EPOC to determine the proper handling and disposal of the transformers. If the oil sample is greater than 500 ppm, the transformer shall be removed as a hazardous/PCB waste. Within 48 hours of having the transformer ready for disposal, the Contractor shall contact the EPOC assigned to the project to coordinate with KSC Waste Management for pick-up and removal of hazardous/PCB waste. Lab analysis that is older than 6 months will not be considered valid analysis and resampling must be completed.
- Amendment 3 Dated 6/22/10**
- F. If oil-filled cable contains PCBs greater than 50 ppm, it must be disposed of through the KSC Waste Management Office; all such cable will remain the property of the government. Cable shall be cut in 8 foot sections with ends properly capped to prevent any leakage.
- G. The KSC/Schwartz Road Class III Landfill will accept PCB Bulk Product Waste for disposal. The policy for PCB Bulk Product Waste is outlined in [KNPR 8500.1](#) and establishes requirements for the determination, management, and disposal of potential PCB Bulk Product Waste in the form of painted or coated structures.

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*PCB Bulk Product Waste* is defined in 40 CFR 761.3 as waste derived from manufactured products containing PCBs in a non-liquid state at any concentration, where the concentration of PCBs at the time of designation for disposal is greater than or equal to ( $\geq$ ) 50 ppm. If the concentration of PCBs at the time of designation for disposal is less than ( $<$ ) 50 ppm, the waste is not considered PCB Bulk Product Waste; however this waste shall be managed and disposed of in a manner to minimize the potential to adversely impact the environment. As a result, the KSC Environmental Assurance Branch (EAB) requires all organizations generating waste containing PCBs  $\leq$  50 ppm to recycle this material when possible. If these materials cannot be recycled, they shall be disposed of in the same manner as PCB Bulk Product Waste.

- H. Upon entering the landfill, all vehicles hauling PCB Bulk Product Wastes shall proceed to the scale house to check in with the scale house attendant. The driver shall reference at a minimum the Project Control Number (PCN) and project location to the scale house attendant.
- I. Corrosion control operations are governed by the requirements of 29 CFR 1910.1025, 1910.1027, 1926.62, and 1926.1127 as they apply to general industry and construction operations at KSC/CCAFS. These provisions apply to occupational exposure to lead, cadmium and other metals that may be encountered during the demolition, maintenance and repair of structures where protective coatings that contain these metals pose a hazard to personnel and the environment.
  - a. All protective coatings that contain PCBs shall be handled in accordance with the requirements of this section.
    - (1) Where Material Safety Data Sheets for protective coatings are available and indicate the presence of PCBs, sampling is not required.
    - (2) Where the presence of PCBs is not determined before work begins, PCBs shall be assumed to be present.
  - b. Analysis results or MSDS information shall be provided.

**Amendment 3 Dated 6/22/10**

- J. The Government will provide a 55 gallon drum for disposal of small size PCB waste. The Contractor shall provide a roll-off dumpster to accommodate situations where the size or quantity of material will not fit in a 55 gallon drum.

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The contents of the dumpster must be continually protected from the elements.

**J-C-19                      RECYCLING AND SALVAGING MATERIALS**

- A. The Contractor shall segregate and divert all of the following Construction and Demolition (C&D) waste items from the list below from disposal at landfills and incinerators to facilitate their recycling or reuse. Any materials and equipment which do not become property of the Contractor must be recycled at KSC. The Contractor shall require all subcontractors, vendors, and suppliers to participate in this effort.

**C&D Waste Items List:**

- a. Concrete<sup>1</sup>
- b. Asphalt<sup>2</sup>
- c. Wood<sup>2</sup>
  - Lumber
  - Plywood
- d. Land Clearing Debris<sup>2</sup>
- e. Metals<sup>3</sup>
  - Aluminum
  - Brass
  - Copper
  - Rebar
  - Other Non-Ferrous
  - Other Ferrous
  - Stainless Steel
  - Steel
  - Scrap Metal

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Notes:

<sup>1</sup> Clean concrete waste must be taken to the Diverted Aggregate Recycling and Collection Yard (DARCY) located at Schwartz Road Landfill. Follow the guidelines in the KSC DARCY Management Plan, which will be provided to the Contractor at the Pre-Work Conference.

<sup>2</sup> Non-pressure treated and unpainted wood, lumber, plywood, green waste and land clearing debris from C&D operations must be taken to the Schwartz Road Landfill. Instructions on where to stockpile these items in the landfill will be given by personnel located inside the scale house at the entrance to the landfill.

<sup>3</sup> All metals with PCB levels below 50 parts per million shall be taken to the Reutilization, Recycling and Marketing Facility (RRMF) located at Ransom Road Reclamation Yard (M6-1671) unless contracted otherwise.

<sup>4</sup> These items require inspection by RRMF/Environmental Management Branch recycling personnel to provide proper disposition of waste material.

- B. The Contractor shall record C&D waste materials on the "Construction & Demolition Projects Report", KSC Form 7-648 NS (02/07) and submit the form on a monthly basis and keep log on site per direction of the Contracting Officer (CO).
- C. All items or materials designated by the contract to be salvaged shall remain the property of the Government and will be cleaned of non-salvable debris, segregated, itemized, delivered, and off-loaded by the Contractor at the disposal area. Scrap metal will be treated as salvage. The Contractor shall maintain adequate property control records for all materials or equipment specified by the contract to be salvaged. These records may be in accordance with the Contractor's system of property control if approved by the CO. The Contractor shall be responsible for adequate storage and protection of salvaged materials and equipment pending delivery to the disposal area.
- D. The RRMF will accept materials only if they meet the following criteria:
- No leakage of any type of fluid from equipment or containers
  - No visible indication of old spills/releases on outside of equipment or containers that could be washed off from rainfall
  - All equipment being offered for sale as scrap must be, in addition to being free of leaks and external contamination, drained of all fluids.

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- All items must be accompanied by required documentation, KSC Form 7-49 (or equivalent), and identified with a full, written commercial description.
- E. The RRMF will not accept treated lumber (arsenic, chromated copper arsenate, etc.), explosive materials/ordnance, blast media, hazardous materials (PCBs above 50 ppm), asbestos, etc.), leaking equipment, radioactive wastes, uncrushed drums, intact compressed gas cylinders, intact flex hoses, or biomedical wastes. Any equipment which is found to be leaking during the initial inspection of the delivery to the RRMF will be reported as a spill. It is the financial and environmental responsibility of the organization sending the equipment to the RRMF to ensure appropriate clean-up and disposition of the equipment and any other contamination caused by it.
- F. Liquid-containing items which are delivered to the RRMF with the intent of resale but which are at some point re-designated for sale as scrap metal, will be properly drained into impermeable containment sufficient to collect and contain 100% of all liquids in the equipment, by RRMF personnel and thereafter be managed under the requirements for scrap metal.

Appendix B of KNPR 8500.1 Rev, A-1 summarizes major environmental requirements for delivery/acceptance of some of the most common materials sent to the RRMF as well as general storage requirements of the materials while at the RRMF. The information in this appendix is for summary purposes only and should not be construed as a comprehensive listing of additional and/or non-environmental requirements that may exist.

**J-C-20                      SPILLS**

The Contractor shall make all reasonable and safe efforts to contain and control any spills or releases that may occur. The Contractor shall immediately report (by phone) any occurrence of a pollution incident or spill, first to the Emergency 911 (321-867-7911 from a non 867/861 exchange), then to the Contracting Officer (CO). The Contractor shall document the incident or spill on KSC Form 21-555, "Pollution Incident Report," and submit it to the CO and NASA Environmental Assurance Branch (EAB), TA-B1B, within 24 hours of the incident.

The Contractor shall provide spill response materials to contain and control spills including, but not limited to, containers, absorbent material, shovels, and personal protective equipment. Spill response materials shall be available at all times in which

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materials/wastes are being handled or transported. Spill response materials shall be compatible with the type of material being handled.

The KSC Spill Cleanup Team will be responsible for the final cleanup and validation of a spill or release.

The Contractor's prompt action to minimize the impacted area and to timely report any occurrence will increase the Spill Cleanup Team's ability to complete the spill cleanup and therefore reduce the Contractor's liability for a larger cleanup.

**J-C-21                      WEEKLY STATUS MEETING**

The Contractor shall attend a weekly progress/status meeting to be scheduled by the Contracting Officer OR Contracting Officer's Technical Representative (COTR) for the purpose of determining progress status, delaying factors, material delivery schedules, and status of shop drawing submittals. In addition, a representative of each first tier subcontractor may be required to be present for the conference.

**J-C-22                      SUPERINTENDENT ASSIGNMENT**

Pursuant to clause 52.236-6, entitled "Superintendence by the Contractor," any assigned superintendent must be a full-time employee of the Contractor and be 100 percent committed to superintending the work required by this contract. The superintendent shall not fill any other positions in performance of this contract.

**J-C-23                      PERMIT REQUIREMENTS**

No on-site work will be allowed until the appropriate State and Federal issuing agencies issue all required permits. The government is responsible for obtaining and providing all required permits except as specified below. Permits required may include, but are not limited to, air construction, dewatering, borrow pit, potable water, sanitary sewer, stormwater, National Pollutant Discharge Elimination System (NPDES) and wetlands.

The following permits are known to be required for this project (fill in or state none):

**NONE**

The Contractor is responsible for obtaining the following permits, if required, before beginning work on the subject systems: FDEP/Brevard County Onsite Sewage Treatment and Disposal System Construction/Permit Abandonment and the FDEP/Brevard County Well Construction/Abandonment Permit. The Contractor shall comply with the terms and conditions of these permits. The Contractor shall provide copies of these permits as well as copies of all documentation submitted as part of the application process to the **NASA**



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**Environmental Assurance Branch (EAB), TA-B1B** through the Contracting Officer (CO) as delineated in contract documents or as directed by the CO.

The Contractor shall not begin construction before receiving all Federal, State, and local construction permits as indicated in this section. Included in adherence thereto is compliance with all conditions of the permit as well as requirements given in the laws, ordinances, and regulations. The Contractor shall be responsible for payment of any fines from government agencies resulting from the Contractor's failure to adhere to all identified permit conditions and agency regulations. These shall include, but are not limited to, material and construction standards, environmental protection, certifications, notifications, and monitoring requirements.

Upon issuance of the Notice to Proceed, the CO shall make copies of all Government provided permits with conditions related thereto available to the Contractor. The Contractor shall keep copies of the permits and related materials such as drawings.

**J-C-24                      HAZARDOUS WASTES**

Hazardous and controlled waste shall be managed in accordance with all applicable statutes, rules, orders, and regulations which may include but are not limited to 40 CFR Parts 260 - 268, 273, 279, 761. All hazardous waste generated during the execution of this contract shall be disposed of by the Government. Unless directed by the Contracting officer, in no case shall the Contractor or the Contractor's representative transport hazardous waste from KSC.

The Contractor shall be responsible for identifying processes and operations and the location and nature of all potentially hazardous and controlled waste and their containers, as defined in 40 CFR Parts 261, 273, 279, or 761. KSC has established policies and procedures in place to assist the contractor for characterization, handling and storage of wastes generated on KSC. Any request for assistance shall be in writing and submitted to the Contracting officer.

The Contractor shall establish an on-site satellite waste accumulation area (SAA) within 50 feet (ft) of and within sight of any point where hazardous or controlled wastes may be generated. If a satellite accumulation area must be more than 50 ft from the point of generation, or out of sight of the generator, the Contractor shall provide a written request to the CO fourteen (14) days before the start of the waste generating process. The Contractor shall not place the satellite site in service before receiving written approval of the variance from the Contracting Officer.

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Unknown wastes – If during the course of the project unidentified waste is discovered by the contractor or subcontractors, the contractor shall immediately contact the Contracting Officer and handle the waste as hazardous. The contractor shall not attempt to move, open or test any unknown commodities.

Universal Wastes (UW) –The Contractor shall handle, collect and manage any universal waste in accordance with 40 CFR 273 and Chapters 62-730 and 62-737 FAC.

Used Oil - Used oil shall be managed according to regulations established in 40 CFR 279 and Chapter 62-710, FAC.

Government Assistance – KSC has established procedures for the handling, storage and disposal of hazardous waste. To aide with proper compliance of site-specific requirements, the Government will assign a NASA Environmental Point of Contact (EPOC) for each project. The EPOC shall, upon request, assist with waste hazard determination, packaging, labeling, and disposal requirements for waste generated on KSC. The establishment of the NASA EPOC in no way relieves the contractor for compliance with requirements defined in 40 CFR Parts 261, 273, 279, or 761.

The Government will provide DOT compliant storage containers and labels upon request. The Contractor shall request the storage containers, by providing quantity and type needed, in writing to the Contracting Officer a minimum of one week before the required need date. The containers will be available for pickup by the Contractor at a location designated by the Contracting Officer. For projects that will be generating large quantities of waste (>10 waste containers needed), a two week notice must be provided to the CO to ensure availability of waste containers.

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(Switchgear Batteries) Contractor shall make the batteries ready for shipment by installing shipping caps (in lieu of flame arrester caps), installing insulating tape over battery terminals, palletizing no higher than one level, and shrink wrapping the pallet such the batteries are secured to the pallet. Battery pallets are to be delivered to KSC's Ransom Road facility (RRMF).

**J-C-25                      FRIABLE ASBESTOS MANAGEMENT**

Regulated Asbestos Containing Materials (RACM) must be handled, packaged, and labeled of per EPA 40 CFR 61 and OSHA Construction Standards 29 CFR 1926.1101 prior to disposal. The contractor shall transport and dispose of all RACM at the Brevard County Landfill. No RACM will be authorized for disposal at any KSC waste facility.

**J-C-26                      STORAGE TANK REPORTING**

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- A. Onsite temporary oil or oil products storage tanks must be Underwriter's Laboratory (UL) Listed, American Petroleum Institute (API) or Steel Tank Institute (STI) approved for the product stored. These tanks shall be located/sited in a location that will minimize impacts to the environment in the event of a leak (not near swales, storm water system, surface waters, wetlands, or storm drains or inlets). They shall be equipped with secondary containment to catch drips and leaks from the tank, or be double walled. In addition, tanks shall have a means of overflow protection, be properly grounded and secured.
- B. Construction operations are not covered in the overall KSC Spill Prevention, Control and Countermeasures (SPCC) Plan due to their temporary nature. However, if the onsite storage of oil products will be greater than 12 months in duration, or at any time exceeds the threshold aggregate aboveground container capacity of 1,320 gallons (only containers greater than or equal to 55 gallons are counted), the construction Contractor is required to create a project specific SPCC Plan for their activities on KSC. The SPCC Plan must adhere to the requirements of 40 CFR 112, and be delivered to the Contracting Officer (CO) before bringing any storage tanks that are subject to this clause on site. KSC Form 21-555 (KSC Pollution Incident Reporting and Notification Form) shall be required if drips, leaks, or over spills occur.
- C. Permanent storage tanks greater than 550 gallons for a regulated petroleum substance constructed, furnished, or used by the Contractor must be registered with the State of Florida. The Contractor shall fill out the registration form for an Underground Storage Tank (UST) and/or Aboveground Storage Tank (AST) and submit the form to the CO and the NASA Environmental Assurance Branch (EAB), TA-B1B prior to final inspection before tank is placed into service. The EAB, TA-B1B representative, will sign and send the registration to the Florida Department of Environmental Protection (FDEP). The Contractor shall notify the CO forty-five (45) days prior to installation of any registered tank so that a written notice of tank installation can be provided to the regulatory authority, by the EAB, TA-B1B, at least thirty (30) days prior to tank installation as required. In addition, the EPB shall be notified 5 days before any of the following activities in order to schedule inspections with the Brevard County Natural Resource Management Office (BCNRMO):
1. Delivery of the tank to KSC/CCAFS
  2. Completed installation inspection request for BCNRMO allowing the tank to be fueled and placed into service
  3. Final operational inspection request for BCNRMO to verify system is operating

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- D. The Contractor shall report all incidents to KSC in accordance with Environmental Procurement Clause "Spills."
- E. UST registration and regulations are covered in Florida under FAC 62-761. Notifications of installation, upgrading, internal inspections, testing, incidents, discharge, and closure are detailed under 62-761.450. The EPB shall be notified 45 days before initiating the removal of any registered underground storage tank system. An additional notification to EAB is required 5 days before tank removal so a BCNRMO inspection can be scheduled if necessary.

AST registration and regulations are covered in Florida under FAC 62-762. Notifications of installation, upgrading, internal inspections, testing, incidents, discharge, and closure are detailed under 62-762.451. The EAB shall be notified 45 days before initiating the removal of any registered aboveground storage tank system. An additional notification to EAB is required 5 days before tank removal so a BCNRMO inspection can be scheduled.

**J-C-27                      DISPOSAL AND SALVAGE OF MATERIALS**

- (a) Construction and demolition debris shall be removed by the Contractor to the designated disposal area which is located not more than 10 miles from the work site. "Construction and demolition debris" means materials generally considered not to be water soluble and non-hazardous in nature, including but not limited to glass, brick, concrete, asphalt material, pipe, gypsum wallboard, and lumber. The term includes materials from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure. The term includes rocks, soils, tree remains, trees, and other vegetative matter which normally results from land clearing or land development operations for a construction project including such debris from construction of structures at a site remote from the construction or demolition project site. Painted structural materials must be tested prior to disposal in landfill.
- (b) All items of materials designated by the Contracting Officer to be diverted from solid waste disposal as part of the KSC landfill diversion effort shall be segregated from other mixed construction and demolition debris and taken via separate load by the Contractor to the designated disposal area. Segregated items include concrete, wood, soils and vegetative materials.

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- (c) The Contractor should make every effort to deliver vegetative material to the appropriate disposal area. The Contractor, however, may burn combustible vegetative materials, at a designated location within the confines of KSC or CCAFS, upon approval by the Contracting Officer. Burn permits issued by KSC or CCAFS are required before materials are burned. Burning may be limited or prohibited during periods of dry weather, or when sensitive flight hardware is housed in the vicinity of the burn site. Burn Permits must be scheduled a minimum of 48hrs in advance, and are to be requested through the Fire Services Scheduler at 861-3840 between the hours of 0800-1100 & 1200-1430, Monday through Friday.
- (d) All items of materials designated by the Contracting Officer to be salvaged shall remain the property of the Government and will be cleaned of non-salvable debris, segregated, itemized, delivered, and off-loaded by the Contractor at the disposal area. Scrap metal will be treated as salvage. The Contractor shall maintain adequate property control records for all materials or equipment specified by the Contracting Officer to be salvaged. These records may be in accordance with the Contractor's system of property control if approved by the Contracting Officer. The Contractor shall be responsible for adequate storage and protection of salvaged materials and equipment pending delivery to the disposal area.
- (e) The contractor shall ensure that all salvable materials delivered to the designated disposal area meet the following conditions:
  - (1) All items must be accompanied by required documentation, KSC Form 7-49 (or equivalent), and identified with a full, written commercial description.
  - (2) No leakage of any type of fluid from equipment or containers.
  - (3) No visible indication of old spills/releases on outside of equipment or containers that could be washed off from rainfall.
  - (4) Oil filled equipment shall be drained of free-flowing liquids. Items which previously contained dielectric fluid must be accompanied by a copy of analytical results taken within the past 6 months, documenting that the fluid did not contain Polychlorinated Biphenyls ((PCBs) in concentrations equal to or greater than 50 ppm. Fluid sampling will be performed by the Government.
  - (5) Unserviceable equipment containing Ozone-Depleting Substances (ODS, e.g. Freon) must be drained (ODS recovered) and labeled "Empty". Serviceable equipment containing ODS needs a certification that the equipment is not leaking. Serviceable equipment shall not be drained.

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- (6) Scrap metal must be visually clean of all residual oil/contaminants.
- (f) Hazardous waste shall be managed in accordance with the terms set forth in this contract. Asbestos waste material shall be deposited in the Brevard County Landfill located on Adamson Road in West Cocoa, Florida. The Contractor shall obtain a receipt from the landfill operator for each load of waste deposited and furnish a copy of the receipt to the Contracting Officer.
- (g) A normal state of cleanliness at the work site is expected. The Contractor shall clean up and dispose of debris from the work site daily.

**J-C-28            TURBIDITY & EROSION CONTROL**

- (a) The Contractor shall prevent the discharge of sediment into drainage ditches, canals, streams, rivers or lakes due to construction operations. Approved erosion control devices shall be installed to prevent discharge of sediment into any dry or wet watercourse. Erosion control shall consist of anchored hay bales, mulch and netting, filter cloth barriers or other erosion control methods approved by the Contracting Officer. Stockpiled fill material shall not be stored in a manner which allows runoff into any watercourse.
- (b) The Contractor shall not begin work in any watercourse without an approved Florida permit obtained from the Contracting Officer. The contractor shall comply with the turbidity control requirement of the Florida permit which at a minimum will include turbidity curtains. The contractor shall prevent increases in turbidity in excess of water quality standards for the receiving water class, unless increases in turbidity are specifically allowed by the Florida permit. Should the contractor's activities cause an increase of turbidity above the allowable standard, the contractor shall cease all contributory construction activity and install additional turbidity control measures.

**J-C-29            ASBESTOS CONTAINING BUILDING MATERIALS**

- A. The Contractor shall abate all ACM as shown or specified in the contract documents and shall notify the Contracting Officer if any undocumented ACM or suspected ACM is encountered. If asbestos abatement is required, the Contractor shall provide a written Asbestos Management and Abatement Implementation Plan which is consistent with the requirements of Federal, State, and Kennedy Space Center regulations. These regulations include the Occupational Health and Safety Administration (OSHA) regulation 29 CFR 1926.1101, the Code of Federal Regulations (CFR) National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 61 Subpart M, the Florida Administrative Code (FAC) requirements FAC 62-257, the Florida Statute (F.S.) 469 Asbestos Abatement and F.S. 376.60 Asbestos Removal Program Inspection and Notification Fee; and

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NASA/KSC document KNPR 1840.19. The Contractor shall coordinate through the contracting officer's representative any asbestos management and abatement with designated KSC Environmental Health and Fire Services personnel, and any resident government or Contractor organization whose employees may have access to the work location.

- B. Asbestos materials must be handled, packaged, labeled, and disposed of per EPA 40 CFR 61 and OSHA Construction Standards 29 CFR 1926.1101. Fiberboard containers suitable for asbestos disposal shall be supplied by the Contractor. All regulated asbestos waste shall be disposed of at the Brevard County Landfill located on Adamson Road in Cocoa, Florida. Non-friable asbestos can be disposed of at the KSC Schwartz Road Landfill in accordance with Environmental Procurement Clause "Landfill Operations/Solid Waste Removal."

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- C. Asbestos workers shall have Florida state approved Asbestos Worker and Supervisor/Competent Person training equivalent to the EPA Model accreditation Plan (MAP). Additionally asbestos workers shall be provided Hazard Communication notification and instructions regarding proper procedures for and hazards of working in electrical power manholes including those with energized cables. This training shall include general electrical safety, electrical PPE, lockout / tag-out, confined space, and electrical manhole job hazard analysis. Prior to two trained/qualified asbestos workers entering a manhole, they shall be given a pre-task briefing by a qualified electrical worker who shall enter the manhole prior to work to determine the work to be performed, determine and advise of any site specific manhole issues, verify the correct cables are to be worked, and that all safety provisions are in place. Once the qualified electrical worker has completed the briefing he shall exit the manhole until the asbestos abatement work is completed.

**J-C-30      HAND EXCAVATION**

Due to numerous existing underground utilities, all excavation in the areas listed below will be dug carefully, using hand tools only:

Fill in:	Drawing	Sheet	Zone
	<u>79K38608</u>	<u>E6</u>	<u>E/F – 6/</u>
		<u>E7</u>	<u>B/C – 5/6</u>
		<u>E16</u>	<u>D/E – 7</u>
	<u>79K38551</u>	<u>E26</u>	<u>C/H – 2/7</u>

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Contractor shall hand dig a pilot trench to locate existing utilities before motorized equipment is used in the areas listed above. Excavation in areas within 5 feet of all existing utilities shall be by hand.

**J-C-31      GOVERNMENT PROPERTY TO BE INSTALLED BY THE CONTRACTOR**

In association with the work to be performed under this contract, the Government will provide the property identified below to be installed by the contractor. The property will be provided by the Government within 14 days after issuance of the notice to proceed:

Description	Quantity	Estimated Value	Condition
Relay; Schweitzer SEL-751A, Schweitzer Retrofit kit for SEL relay	21	21@\$1800/ea = \$37,800	NEW
Communication Processor SEL-2032	2	2 @ \$2,840/ea = \$5,680	New

**J-C-32      TRAFFIC CONTROL PLAN**

(a) Standards:

U.S. Department of Transportation Federal Highway Administration Manual (latest edition), on uniform Traffic Control Devices for Streets and Highways, Part II, Signs for Traffic Controls for Street and Highway Construction, Maintenance, Utility and Emergency Operations, set forth the basic principles and prescribes minimum standards to be followed in the design, application, installation, maintenance and removal of all traffic control devices and all warning devices and barriers which are necessary to protect the public and workmen from hazards within the project limits. The standards established in the aforementioned manual constitute the requirements for normal conditions, and additional control devices, warning devices, barriers or other safety devices will be required where unusual, complex or particularly hazardous conditions exist.

(b) Traffic Control Devices, Warning Devices and Barriers:

- (1) The responsibility for installation and maintenance of adequate traffic control



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devices, warning devices, and barriers, for the protection of the traveling public and workman, as well as to safeguard the work area in general shall rest with the contractor. The required traffic control devices, warning devices and barriers shall be erected by the Contractor prior to creation of any hazardous condition and in conjunction with any necessary rerouting of traffic. The Contractor shall immediately remove, turn, or cover any devices or barriers which do not apply to the existing conditions.

- (2) The Contractor shall make the Contracting Officer aware of any scheduled operation which will affect traffic patterns or safety, sufficiently in advance of commencing such operation to permit his review of the plan for installation of traffic control devices, warning devices, or barriers proposed by the contractor.
  - (3) The Contractor shall assign one of his employees the responsibility of maintaining the position and condition of all traffic control devices, warning devices, and barriers through the duration of the contract. The Contracting Officer shall be kept advised at all times as to the identification and means of contacting this employee on a 24 hour basis.
  - (4) Maintenance of Devices and Barriers: Traffic Control devices, warning devices, and barriers shall be kept in the correct position, properly directed, clearly visible and clean, at all times. Damaged, defaced, or dirty devices or barriers shall immediately be repaired replaced, or cleaned as required per the request of the Contracting Officer.

(c) Flagmen:

The Contractor shall provide competent flagmen to direct traffic in situations as may be required by the standards established in the paragraph above.

(d) Traffic Control Plan:

- (1) After contract award but prior to Notice to Proceed, the Contractor shall submit a traffic control plan to the Contracting Officer for approval. No work will be allowed on bridges or right-of-way of roads between the hours of 6:00 AM to 8:00 AM and 3:00 PM to 5:00 PM.
- (2) The Contractor may request work time during off shift and weekends in order to meet construction schedules.
- (3) The Traffic Control Plan will be updated by the Contractor on a weekly basis

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in order to provide a current plan for the job and make adjustments to the Contractor's work. The updated Traffic Control Plan shall be presented at the Weekly Status Meeting.

(e) Traffic Flow Requirements:

The Contractor shall keep one lane open at all times during road modifications. Any trench or hole created in a roadway shall be backfilled to finish roadway elevation or effectively covered to support vehicle loads prior to allowing any traffic to flow over it. No roads will be blocked during peak hours of traffic; no road work shall start before 8:00 am or continue past 5:00 pm, Monday through Friday unless otherwise approved by the Contracting Officer.

**J-C-33 PERMIT REQUIREMENTS**

No on-site work will be allowed until the appropriate State and Federal issuing agencies issue all required permits. The government is responsible for obtaining and providing all required permits except as specified below. Permits required may include, but are not limited to, air construction, dewatering, borrow pit, potable water, sanitary sewer, storm water, National Pollutant Discharge Elimination System (NPDES) and wetlands.

The following permits are known to be required for this project (Fill-In or state "None"):

**NONE**

The Contractor is responsible for obtaining the following permits, if required, before beginning work on the subject systems: FDEP/Brevard County Onsite Sewage Treatment and Disposal System Construction/Permit Abandonment and the FDEP/Brevard County Well Construction/Abandonment Permit. The Contractor shall comply with the terms and conditions of these permits. The Contractor shall provide copies of these permits as well as copies of all documentation submitted as part of the application process to the NASA Environmental Assurance Branch (EAB), TA-B1B through the Contracting Officer (CO) as delineated in contract documents or as directed by the CO.

The Contractor shall not begin construction before receiving all Federal, State, and local construction permits as indicated in this section. Included in adherence thereto is compliance with all conditions of the permit as well as requirements given in the laws, ordinances, and regulations. The Contractor shall be responsible for payment of any fines from government agencies resulting from the Contractor's failure to adhere to all identified permit conditions and agency regulations. These shall include, but are not limited to,

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material and construction standards, environmental protection, certifications, notifications, and monitoring requirements.

Upon issuance of the Notice to Proceed, the CO shall make copies of all Government provided permits with conditions related thereto available to the Contractor. The Contractor shall keep copies of the permits and related materials such as drawings.

**J-C-34      BIOLOGICAL SURVEYS**

The Contractor shall notify the Contracting Officer (CO) to request that NASA Environmental Management Branch (EMB) perform a biological survey, fourteen (14) days prior to start of work. The Contractor shall not create a lay down area, begin land clearing, or site disturbance activities, including exterior lighting and roof work, before receiving written approval from the CO stating that the biological survey is complete and all mitigation action (e.g. Protected species relocation/protection, identification and protection of plant species of special concern) to be performed by the Government or Contractor has been completed. If multiple sites will be used for material lay down areas, a biological survey will be required for each lay down area prior to use.

**J-C-35      ORANGEBURG DUCTWORK**

The Contractor shall containerize and dispose of any solid debris generated from mechanical cleaning or boring of Orangeburg pipe in accordance with the requirements of the Process Waste Questionnaire (PWQ), KSC Form 26-551 and the Technical Response Package (TRP) in accordance with Environmental Procurement Clause "Hazardous Waste". The Contractor shall containerize and dispose of any water used to rinse Orangeburg ductwork after cleanout in accordance with the PWQ/TRP. Manholes must be free of solid debris before dewatering effluent may be allowed to discharge by land application.

**J-C-36      STORMWATER POLLUTION PREVENTION**

The Contractor shall be responsible for providing pollution prevention measures, including erosion and sediment controls, in accordance with Federal and State Regulations. The pollution prevention measures selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of the Contractor's construction activities. The Contractor shall construct or install temporary and permanent erosion and sediment control best management practices (BMPs) as indicated on the contract drawings and as necessary to minimize environmental damage and maintain compliance

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with regulatory requirements. The Contractor shall also abide by any and all permits obtained for the specific project.

A NPDES permit is required for all activities that disturb greater than one (>1) acre of land.

A NPDES permit is not required for activities that disturb less than or equal to one ( $\leq 1$ ) acre of land; however, the Contractor shall implement erosion control BMPs during construction.

**J-C-37      DEMOLITION**

- A. The contractor shall submit a Demolition Plan for Government approval prior to starting any demolition. Include in the plan procedures for removal and disposal of materials, coordination with other work in progress, traffic control, waste disposal/recycling approach, approved off-site waste disposal/recycling facilities, a disconnection schedule of utility services, a detailed description of methods and equipment to be used for each operation, and a sequence of operations. Plan shall be approved by Contracting Officer prior to work beginning.
- B. Remove rubbish and debris daily from the project site; do not allow accumulations inside or outside of buildings or at work sites. Where materials such as poles, electrical cable, transformers, are to be temporarily stored on site, indicate temporary storage provisions and storage areas to be utilized in the Environmental Protection Plan. The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Prevent the spread of dust and debris and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Remove debris, vacuum, and dust the work area daily.
- C. Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights, flag men, and other means as required to insure safety. Comply with all Florida Department of Transportation Regulations and do not impede normal vehicle traffic between the hours of 06:30 AM – 09:00 AM and 03:00 PM - 05:30 PM, Monday through Friday, Anchor barricades in a manner to prevent displacement. Notify the Contracting Officer a minimum of (14) calendar days prior to beginning any work. The Contractor shall continuously evaluate the current site conditions and take immediate action to protect all personnel working in and around the project site. .
- D. Burning of materials or use of explosives will not be permitted on Government property except as otherwise noted in this contract.

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- E. Comply with excavating, backfilling, and compacting procedures for soils used as backfill material to fill voids, depressions or excavations resulting from demolition or deconstruction of structures. In addition, fill material must be free from roots and other organic matter, trash, debris, frozen materials, and stones larger than 2 inches in any dimension.
- F. Take necessary precautions to avoid damage to existing items and utilities to remain in place, to be reused, or to remain the property of the Government. Protect existing facilities, materials, or equipment from the weather when such exposure will cause damage. Repair or replace damaged items as approved by the Contracting Officer. Do not disturb existing construction beyond the extent indicated or necessary for installation of new construction.
- G. Remove existing utilities, equipment, and materials as indicated. Do not interrupt existing utilities serving facilities occupied and used by the Government except when approved in writing and then only after temporary utility services have been approved and provided. Do not begin demolition or deconstruction work until all utility disconnections have been made. Shut off and cap utilities for future use, as indicated. When utility lines are encountered that are not indicated on the drawings, the Contracting Officer shall be notified prior to further work in that area.
- H. Remove concrete and asphaltic concrete paving and slabs as indicated to a depth of 2 inches below existing adjacent grade. Provide neat saw-cuts at limits of pavement removal as indicated.
- I. Where removals leave holes and damaged surfaces exposed in the finished work, patch and repair these holes and damaged surfaces to match adjacent finished surfaces. Where new work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new work. Finished surfaces of patched area shall be flush with the adjacent existing surface and shall match the existing adjacent surface as closely as possible as to texture and finish.
- J. All materials and equipment removed and not reused shall be handled as follows:
  - a. Hazardous materials and transformer insulating oil shall not be removed from KSC and shall be disposed of by the Government.
  - b. Return materials or equipment specifically indicated on the drawings to the Government.

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- c. Waste soils shall be disposed of as directed by the Government. Unless infeasible use soils for back-fill at the same location they are excavated.
- d. At the Contractor's discretion, all other non-hazardous material and equipment shall be salvaged, recycled, or disposed of at approved off-site disposal and recycling facilities or at KSC disposal and recycling facilities. Contractor shall maximize the amount of materials salvaged and recycled.
- e. Only equipment or material removed from Government property shall become the property of the Contractor. The Government will not be responsible for the condition or loss of, or damage to, such property after contract award. Showing for sale or selling materials and equipment on site is prohibited. Dispose of debris, rubbish, scrap, and other non-salvageable materials resulting from removal operations with all applicable federal, state and local regulations as contractually specified off the space center.

Equipment and materials salvaged, recycled, or disposed of on KSC shall be in accordance with applicable clauses of this contract. All such materials and equipment will remain the property of the Government and the Contractor will not be entitled to any monetary allowances for residual or re-cycled value.

**J-C-38      NON HAZARDOUS WASTE DIVERSION REPORT**

- B) The contractor shall maintain an inventory of non-hazardous solid waste diversion and disposal of construction and demolition debris. Submit the Construction and Demolition Projects Report (KSC Form 7-648 NS (02/07)) to the NASA Environmental Management Branch through the Contracting Officer (CO) at the end of the calendar year and end of contract, Include the following in the report:

- i. Construction and Demolition (C&D) Debris Disposed = \_\_\_\_\_ in cubic yards or tons, as appropriate. Where waste is disposed of off-site, provide copies of all lift tickets to the Contracting Officer.
- ii. Construction and Demolition (C&D) Debris Recycled = \_\_\_\_\_ in cubic yards or tons, as appropriate.
- iii. Total C&D Debris Generated = \_\_\_\_\_ in cubic yards or tons, as appropriate.

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- iv. Waste sent to Waste-To-Energy Incineration Plant (This amount should not be included in the recycled amount) = \_\_\_\_\_ in cubic yards or tons, as appropriate.

**J- C-39      SOLID WASTE MANAGEMENT UNIT (SWMU)**

**Amendment 3 Dated 6/22/10**

- A. The project is located within the boundaries of various identified SWMU and Potential Release Location (PRL) sites under investigation by the Remediation Group of the NASA Environmental Assurance Branch. A SWMU or PRL designation means a site has had historical operations which had the potential to impact the environment. It should be communicated to the workers that contamination exists within and in the vicinity of the project work area. Before proceeding, the project proponent should consult with the Industrial Hygiene Office to determine appropriate PPE.

HAZARDOUS/NON-HAZARDOUS WASTE: All hazardous and non-hazardous wastes generated on KSC must be managed, controlled and disposed of per the KSC Waste Management requirements outlined in KNPR 8500.1. A Process Waste Questionnaire (PWQ), KSC Form 26-551, along with any supporting documentation (MSDS, product formulation, lab analyses) must be submitted to the IHA Waste Management Office for each waste stream generated. That office will then generate a Technical Response Package (TRP) which will give direction on proper handling, storage, and disposal of the waste stream. Please contact IHA Waste Management Services at 867-8640 for assistance.

- B. **SWMU #008 (LC39A)**  
A Land Use Control Implementation Plan (LUCIP) has been prepared for LC39A. These controls are necessary to prohibit the use of groundwater from the site and prohibit residential exposure to soil and swale soil present at LC39A. Dewatering effluent from manholes may be discharged to grade. All disturbed soil must be returned to the place from which it was excavated.
- C. **SWMU #009 (LC39B)**  
A Land Use Control Implementation Plan (LUCIP) has been prepared for LC39B. These controls are necessary to prohibit the use of groundwater from the site and prohibit residential exposure to soil and swale soil present at LC39B. Dewatering effluent from manholes may be discharged to grade. All disturbed soil must be returned to the place from which it was excavated.

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D. **SWMU #66 (C-5 Substation)**

C-5 Substation is under land use controls (LUCIP) due to contaminant levels above residential criteria in groundwater and soils. All excavated soils in this area must be placed back in the area from which they were excavated or be managed through the Process Waste Questionnaire (PWQ) / Technical Response Package (TRP) process. The proponent must contact the NASA remediation project manager (TA-B1B, 867-6691) prior to any dewatering operation. The RPM will provide details on the safe handling, treatment and disposal of potentially contaminated groundwater.

E. **EXISTING WELL LOCATIONS:** The NASA Remediation group has requested that all fence lines be installed at least 5 feet from any existing well head. These wells must be protected from damage and/or disturbance during this project due to active/future sampling at these locations. The well heads are flush mounted and are clearly marked. In situations where fence installation will impact existing well locations, please contact the NASA Remediation Office prior to disturbance. Assistance in locating existing sampling wells within this project area can be obtained by contacting the NASA Remediation Office ( TA-B1B, 867-6691).

F. **SWMU #56 (VAB)**

All disturbed soils in the VAB area must remain on site or managed through the PWQ/TRP process. Except as noted for SWMU #44 and #101 below, groundwater contamination in this area is deep and should not be impacted by this project unless significant dewatering becomes necessary. Contact the NASA Remediation Office (TA-B1B, 867-6691) for additional information.

G. **SWMU #101 (PCC)**

**Amendment 3 Dated 6/22/10**

There is shallow groundwater contamination at the Processing Control Center Area. **\*\*IMPORTANT\*\*** If dewatering is necessary in Manhole E40A the groundwater must be containerized and managed through the PWQ/TRP process. Dewatering effluent from this manhole must be placed in tanks or tanker truck and disposed of properly.



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**H. SWMU #44 (West Crawler Park Site)**

There is shallow groundwater contamination at the West Crawler Park Site (SWMU #44). If dewatering is necessary in these areas, the groundwater must be containerized and managed through the PWQ/TRP process. Dewatering from this area must be placed in tanks or tanker trucks and disposed of properly.

- I. The PWQ/TRP Process requires sampling/analysis of a shallow ground water contamination waste stream by the Government in order to characterize the generated waste for proper management, containerization, and disposal of the waste stream. Containerized water will be sampled/analyzed by the Government before disposal and, if contaminated, will be disposed of by the Government. Therefore, the tank or tanker provided by the Contractor will need to stay on site until analysis and water disposal is complete. The sample/analysis can take up to 4 weeks for total processing, so the tank/tanker will need to stay on site until the wastewater is properly characterized for disposal.

If any dewatering is to occur at a shallow groundwater contamination site, the water shall be containerized by a tank or tanker truck supplied by the contractor. The tank or tanker truck shall remain on site until the PWQ/TRP process is completed on the contaminated water. Once the PWQ/TRP process is completed, the Government will drain the tank and properly dispose of the waste. The Contractor shall ensure his rented tank(s) are decontaminated after emptying by the Government.

Baker tanks or other tanks can be rented by the Contractor to containerize water on site. These can be rented from vendors for a mobilization fee/demobilization fee, decontamination fee and monthly rental fee. The Contractor shall ensure his rented tank(s) are decontaminated after emptying by the Government. Example of a 10K gallon tank can be found at <http://www.bakercorp.com/tanks-steel-10k-roll-off.asp>.

**J-C-40      EROSION AND SEDIMENT CONTROL**

- A. The Contractor shall be responsible for providing pollution prevention measures, including erosion and sediment controls, in accordance with federal and state regulations. The pollution prevention measures selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of the Contractor's construction activities. The Contractor shall construct or install temporary and permanent erosion and sediment control best management practices (BMPs) as indicated (see redlines on drawings) on the contract drawings and as necessary to minimize environmental damage and maintain compliance with

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regulatory requirements. Remove any temporary measures after the area has been stabilized. The Contractor shall also abide by any and all permits obtained for the specific project.

- B. A National Pollutant Discharge Elimination System (NPDES) permit is required for all activities that disturb greater than one (>1) acre of land.
- C. A NPDES permit is not required for activities that disturb less than or equal to one ( $\leq 1$ ) acre of land; however, the Contractor shall implement erosion control BMPs during construction.

**J- C-41 ENVIRONMENTAL PROTECTION**

- A. Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.
- B. Submit an Environmental Protection Plan for Government approval prior to starting any work. Include the following in the plan as a minimum:
  - a. Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.
  - b. An erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided. The plan must include monitoring and reporting requirements to assure that the control measures are in compliance with the erosion and sediment control plan, Federal, State, and local laws and regulations.
  - c. Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of materials including methods to control runoff and to contain materials on the site.
  - d. Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan shall include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff.

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- e. Transformer oil removal plan. The Government shall sample all transformer oil for PCB's prior to removal. Where PCB's are present, submit a separate detailed job-specific plan of the work procedures to be used in the removal of PCB-containing materials. The plan shall include a sketch showing the location, details of PCB control areas, decontamination areas, and other required facilities. Include in the plan, eating, drinking, smoking and restroom procedures, interface of trades, sequencing of PCB related work, PCB disposal plan, respirators, protective equipment, and a detailed description of the method of containment of the operation to ensure that PCB contamination is not spread or carried outside of the control area.
- C. Confine all activities to areas defined by the drawings and specifications. Prior to construction work, inspect all work sites with the Contracting Officers' representative and identify any land, biologic, or other resources to be preserved within the work area prior to the beginning of any construction, and provide effective protection for land and vegetation resources at all times. Do not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without approval. Restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.
- D. Providing erosion and sediment control measures in accordance with Federal, State, and local laws and regulations is the Contractor's responsibility. The area of bare soil exposed at any given time shall be kept to a minimum. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of construction activities. Monitor all water areas affected by construction activities to prevent pollution of surface and ground waters.
- E. Place field offices, staging areas, stockpile storage, and temporary buildings in areas approved in the Environmental Protection Plan. Temporary movement or relocation of Contractor facilities will be made only when approved.
- F. Storage, fueling, lubrication, and maintained condition of equipment and motor vehicles must be conducted in a manner that affords the maximum protection against oil or fluid leak, spills, and evaporation. The contractor will clean all previously used construction equipment prior to bringing it onto the project site. Ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds.

Comply with all applicable Federal, State, and Local environmental laws. The Contracting Officer will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental laws or regulations,

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permits, and other elements of the Contractor's Environmental Protection plan. After receipt of such notice, the Contractor will inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions will be granted or equitable adjustments allowed for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law.

**J- C-42      RESPIRATORY PROTECTION**

- A. Contractors whose contracts require work involving to the use of respiratory protection PPE are required to provide a written program for such work as part of, or appendix to, its Site Specific Safety Plan. This section applies to all contracts involving asbestos abatement, abrasive blasting, and painting and other work where hazardous atmospheres can be anticipated.
  
- B. The Plan shall describe written policies, plans, and procedures detailing how the contractor intends to comply with the Occupational Safety and Health Administration (OSHA) 1926.103, Respiratory Protection and shall list the respiratory protection PPE to be used in completion of the contracted work, the basis for the selection of the respiratory protection PPE and include a list of users with required medical clearance, training, and fit testing for the respiratory protection PPE identified in the plan.

NOTE: OSHA (29 CFR 1910.134) requires that breathing air couplings be incompatible with outlets for nonrespirable worksite air or other gas systems. This safety standard prevents asphyxiating gases from being introduced into breathing air lines.

(a) The contractor shall take precautions to assure that connectors used in contractor-supplied breathing air systems are incompatible with connectors present on either KSC gas systems or on contractor supplied systems that are used to supply non-respirable gases. KSC-STD-Z0008, 'Standard for Design of Ground Life Support Systems and Equipment', establishes requirements for connectors to be used in KSC facility breathing air and non-respirable gas systems. Facility breathing air systems located at KSC/CCAFS are to use a Hansen 3/8 inch quick disconnect as a breathing air distribution interface. KSC facility non-respirable gas

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systems are to use ¼ inch quick disconnects for gas distribution interfaces. Although most facility systems were designed in accordance with this standard, there are nonconforming locations at KSC/CCAFS.

(b) The Contractor may use KSC facility breathing air systems, if available at the work location. The contractor shall perform a pre-work site inspection to identify coupling types in use at the work location before mobilizing or using any breathing air equipment. The contractor shall also submit a written certification to show the contractor's breathing air system has been recently inspected and meets Grade D breathing air standards. Alternately, the contractor may arrange for on-site testing of contractor-supplied breathing air by the Government at least five days prior to start of work. In addition, the contractor shall also provide a work site evaluation for the NASA Safety Office to review before using any breathing air system. The breathing air test and the safety inspection can be coordinated through the Contracting Officer, and will be at no cost to the contractor.

(c) The contractor shall tag or label connector ends of all lines and flexible hoses of contractor-provided breathing air or non-respirable gas distribution systems. The tags or labels will clearly identify the contents of the lines or hoses.

(d) The contractor shall provide a description of the steps taken to comply with the requirements of this clause in their safety plan submittal.

**J-C-43        SUBSTATION ACCESS**

- A) Substation C-5 access is part of the ESS (Electronic Security System) and the contractor has to submit names to ISC Power Systems Supervisor (867-7300) to be put on an access list. When the contractor wants to gain access, they have to call Security and proceed with a verification process that will be explained to them upon their name being placed on the access list. This procedure is to be completed on the 1<sup>st</sup> entry of the day and when they have concluded work for that same day. ***Any deviation from this entry process will initiate a response by KSC Security.***
- B) Prior to entry into Orsino/C-5, the contractor is required to call the EG&G Power Coordinator to let him know that they are working in the Substation and what activities they will be performing.
- C) All entry into substation C-5 or Orsino requires that the "buddy" system (eg, a minimum of two personnel) be used for any work performed.

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**Amendment 3 Dated 6/22/10**

**J-C-44      ELECTRICAL MANHOLE SAFETY PROCESS**

KSC has a procedure that allows work to progress while still meeting the requirements of the safety plan. Where feasible and properly planned, KSC will de-energize all circuits possible prior to work. In addition KSC will set all protective devices to trip without delay (instantaneous trip) to minimize arc flash energy at locations worked on the project. An interpretation by the National Electrical Safety Code Committee has concluded that energized insulated conductors and overhead plant energized facilities fall under the phrase “on or near energized parts or equipment”; therefore, KSC requires appropriate personal protective equipment (PPE) for electrical work that could expose an employee to arc-flash or shock hazards as assessed by the Contractor. Where PPE is specifically stipulated by national recognized codes and standards such as NFPA 70E for certain work (cable inspections, voltage checks, etc.), the use of the appropriate PPE is required. All assessed hazards and PPE must be documented in the Contractor’s Site Specific Safety Plan and Job Hazard Analysis. The general process for electrical manhole work is as follows:

**A. Generate Site Specific Safety Plan Documentation:**

1. **Government:** Request the KSC Institutional Services Contractor develop an Engineering Order required to set C5 Substation, Orsino Substation, or other downstream substation protective device instantaneous settings for medium voltage electrical system work.
2. **Contractor:** Request the Government provide available short circuit and clearing time values for relevant equipment.
3. **Government:** Tabulate short circuit values and device clearing times for manhole and equipment affected by the project, and transmit to the Contractor.
4. **Contractor:** Based on Government provided short circuit levels and clearing times, Contractor’s safety professional to calculate incident energy and arc-flash/shock prevention boundaries in accordance with NFPA 70E or other recognized method for incorporation into electrical work JHA’s, energized work permits, and site specific safety plan as appropriate.
5. **Contractor:** Complete confined space hazard assessment forms (KSC Form 28-750NS) in accordance with KNPR 1840.19 for each confined spaces to be entered. Return form(s) to the COTR.
6. **Government:** Schedule job site inspection with Contractor, KSC Environmental Health, and KSC Safety personnel after Contractor’s confined space hazard assessment form(s) are received.

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7. **Contractor:** Submit site specific safety plans including but not limited to the following elements:
  - a. Confined Space Entry Plan. The Entry Plan will describe the contractors approach to compliance with 29 CFR 1910.146 and or CFR 1910.268(o) as required. Where the contractor will act as a controlling employer with operational control over the permit space during multiple employer entry, the Contractors Confined Space Entry plan shall incorporate procedures to coordinate entry operations (for example, hazardous operations, required PPE, employee training, rescue, emergency services, and all other aspects of the entry) with each entrant's employer.
  - b. Electrical JHA's including but not limited to the following:
    - i.) Voltage check.
    - ii.) Manhole and cable inspections.
    - iii.) Cable cutting.
    - iv.) Cable demolition and installation.
    - v.) Cable splicing.
  - c. Calculations supporting electrical JHA issues including arc-flash and shock protection.
8. **Government:** Provide the Contractor with a confined space hazard assessments for the confined spaces to be entered. The Contractor shall not authorize entry permits for the space until the Government's confined space hazard assessment is returned to the Contractor by the COTR.
9. **Government:** Approve the Contractor's site specific safety plan.
10. **Contractor:** If required, modify JHA's and Site Specific Safety Plan based on the Government's confined space hazard assessments and comments.

**B. Implement Instantaneous Protective Relay Settings:**

1. **Contractor:** Request Government install instantaneous relay settings on feeders handled by the project or scheduled work. Generally this will be all feeders at the applicable supplying substation.
2. **Government:** Implement the Engineering Order for the required relay settings. Provide work permit to the Contractors.
3. **Contractor:** Sign work permit for relay settings. All medium voltage work in manholes or at energized equipment to be performed under this permit.
4. **Government:** Advise Contractor when relay settings must be restored to normal configuration due to launch operations.

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5. **Contractor:** Return work permit to Government at completion of work or when requested by the Government due to launch operations. All work involving manholes or energized equipment must cease until a new permit is issued.

**C. De-energizing Power Switching:**

1. **Contractor:** Request the outage in writing through the applicable contract personnel.
2. **Government:** Submit the outage for approval. Write and execute switching order. Insure Contractor is available to install his lockout/tag-out locks and accept work permit at time of switching
3. **Contractor:**
  - a. Install lockout / tag-out locks and tags during the Government switching process, and sign for the work permit. Complete location of locks and tags installed on the work permit form.
  - b. Establish group lockout / tag-out. All keys for switching devices locked out during the switching process shall be locked in a group lock box which shall be kept on the job site. The Contractor's employee-in-charge personal lock shall be attached to secure the keys in the box.
4. **Contractor:** At the start of the first standard work shift after de-energizing switching and initial lockout / tag-out the circuit shall be verified de-energized using appropriate arc-flash PPE, voltage insulating PPE, and properly rated voltage test equipment as indicated in the approved JHA's. Equipment shall be subsequently grounded where applicable. Notate on the work permit the location of any grounds placed.
5. **Contractor:** All subsequent employees working the job shall attach their individual lockout/tag-out to the group lock box at any time they are working on the applicable equipment or circuit.

**D. Manhole Entries:**

1. **Contractor:** Verify all equipment required in the Government provided confined space hazard assessment and Contractor's JHA is present and on site.
2. **Contractor:** Request the confined space entry permit and prepare the hole for entry (pump out water, establish ventilation, set-up safety equipment, etc). **NOTE:** The contractor may perform atmospheric testing or use the government-provided support for the testing of atmospheres in confined spaces. To request government-provided atmospheric testing for confined space entry, a minimum 24 hr advance scheduling is required through the Environmental Health work control desk at 867-2400.



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3. **Government:** Perform atmospheric check, if requested, and provide the confined space entry permit.
4. **Contractor:** Complete and sign-off on the confined space entry permit. Hold pre-task briefing prior to the manhole entry and notate on the confined space permit.
5. **Contractor:** For each individual manhole, perform initial and, if required, subsequent manhole entries to inspect the manhole and cables using appropriate PPE (including arc-flash and shock prevention PPE) and safety equipment as indicated in the approved JHA. Inspection is to determine any apparent hazards and or issues associated with subsequent work to remove, install, and splice medium voltage cables. Issues include but are not limited to:
  - a. Unusual sounds.
  - b. Cables not properly racked.
  - c. Damage to manhole, cables, or racks.
  - d. Other physical hazards.
  - e. Energized cables in close proximity to manhole modifications (core drilling, installation, racking etc.)
6. **Contractor:** After initial inspection is complete, perform subsequent manhole entries to perform work with appropriate PPE and safety equipment as indicated in the approved JHA.

**D. Cable Cutting:**

1. **Contractor:** Coordinate with the Government for witness of identifying cable(s) to be cut. This is a mandatory inspection point by the Government.
2. **Government:** Witness Contractor cable identification and cutting of the cable(s).
3. **Contractor:** Approved medium voltage cable splicers are to positively identify cable(s) to be cut using electronic means, and permanently mark the cable(s) to be removed in the presence of Government personnel. With Government oversight, cut cable(s) using remote equipment (highly preferred) or appropriate arc-flash and voltage insulating PPE.

**J-C-45      ELECTRICAL EQUIPMENT DEMOLITION/SALVAGE**

Environmental and Industrial Hygiene requirements of this contract notwithstanding, the contractor shall have salvage rights to all electrical equipment noted for removal in this project, as per the specifications, drawings, and contract.